Support For sinclair
ZX81 - spectrum - QL
and
TIMEX sinclair
1000 - 1500 - 2068
CAMBRIDGE Z 88

TIMELINEZ

VOLUME 7 ISSUE 04 APRIL 1989 $1.50

TIMEX/sinclair User Group News-Magazine

VIEW FROM RAMTOP

WELCOME .... to another very late issue of **TIMELINEZ**. Yes, it seems that spring fever has hit hard this year. My lastest issue of Time Design is still the Sep/Oct of 1988. At least I am in the right year. Since the warm weather has started, I have been living a dream that started when my wife and I moved to the valley. I have always been athletic with regards to bicycle riding. My 18 speed "Super Sport" Schwinn bike and I have logged many miles together in Florida. However, when I saw all these mountains around us here, I never dreamed of actually riding up them. It never occured to me that I could? The highest I had ever riddenwas a small hill no higher that 250 feet. That's high to Florida standards! But here, well I gave it a try and succeeded. I can now say that I have been up to Lick Observatory, Sierra Vista loop, and the intersection of Route 9 and Route 35 (Skyline Blvd.). I am planning a trip in June to ride from Palo Alto up Route 9 to Santa Cruz and back. The total trip, I am told, is around 150 miles covering 2 days from start to finish. The most I have achieved is a 160 mile ride over 2 days, however, I was much younger then (22) and in better shape. Anyway, what does this have to due with our computers? Absolutely nothing! Like I said, this is why the newsletters have been late. Yes, spring fever is in the air. Watch out or you'll catch it too.

REMINDER

The next two TIMELINEZ issues are bi-monthly to maintain a 10/year subscription balance.

S.N.U.G. MEMOGRAM

ELECTION NEWS

Sixty seven eligible voting members received ballots to vote on officers for the charter year of S.N.U.G. There were five offices with five candidates for each office. All election totals were supervised by an unbiased party, Mrs. Julia Bailey, a deputy for the Pasco County Supervisor of Elections, Florida.

Forty three ballots were received by the election deadline, and 9 absentee ballots were confirmed by Mrs. Bailey prior to the election deadline, four nominees decided to withdraw.

Here are the election results:

PRESIDENT:
Mel Nathanson -40 (76%)
James Curry (WITHDREW) -06 (12%)
Joan Kealy -04 (08%)
Gary Lessenberry -01 (02%)
D.R. Oviatt (WITHDREW) -01 (02%)

FIRST VICE PRESIDENT:
Paul Holmgren -28 (54%)
Donald Lambert -10 (19%)
David Hartman -07 (13%)
Alex Burr -04 (08%)
Ted Heckman -03 (06%)

SECOND VICE PRESIDENT:
Basil Wentworth -20 (38%)
Frank Davis -13 (25%)
Ruth Fegly -12 (23%)
Laurie Futrell -07 (13%)
Frank Orosz -00 (00%)

SECRETARY:
Audrey Curnutt -20 (39%)
Gary Lessenberry -16 (31%)
Andrew Hradesky -09 (17%)
Mike Bowers -07 (13%)
William Wood -00 (00%)

TREASURER:
John Cushran -20 (38%)
Tim Stoddard-WITHDREW -21 (40%)
Rodger Phelps-WITHDREW -05 (10%)
Chris Crawford -03 (06%)
Ken Frankel -03 (06%)

TT II MM EE LL II NN EE ZZ

TIMEXsinclair user group News-Magazine

SUPPORT FOR:

TIMEXsinclair's
1000, 1500, 2068

Sinclair's
ZX Spectrum+ 128K
Quantum Leap (QL)

Cambridge's Z88

FRONT PAGE

PRINTED USING sinclair QL PROFESSIONAL COMPUTER AND THIS PROGRAM.

DESK-TOP PUBLISHING
FOR THE SINCLAIR QL

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RENEWAL TIME? To determine your expiration date, simply read the date posted on the right side of the mailing label (magazine rear-cover). This date indicates the last issue of your subscription. Your label will state two issues prior to renewal, "REMINDER - Subscription Now Due", as our reminder to you that an early renewal is very much appreciated. Keep the communication open and let us know your interests. **TIMELINEZ** is as good as your support.

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Back issues of **TIMELINEZ**, 7/83 thru 12/87 Contact Bill Miller at:

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6675 Clifford Drive
Cupertino, CA 95014

Issues 1/88 - present, contact your editor at **American Micro.**

The PDSE Library is now available to all; covering T/S1000-1500, T/S 2068, Spectrum and the QL.
Contact **American Micro** for further details.

S.N.U.G. CONTINUED...

Frank Davis is serving as the Public Domain software Librarian. There is a staff assisting him. (ps. have anything to contribute?)

Several members have asked how the elections were determined. Many said they had no idea who some of the nominaties were. Another questioned the validity of reasoning - Why would the established leaders want to turn over the leadership to unkown quantities.

Although many of the nominees were not familiar to the voters, this would be an excellant opportunity to impart new ideas and new blood into the group. Due to the short period of time and the need to get up and running, we had to utilize the election process that we did. As to why the election was held in the first place? There have been too many allegations of a grab for power. Elections were the only fair way to prevent any claims. The election was held and regulated as fairly as possible. In the future, procedures will be more structured, formal, and organized. Towards that end, we will have a By-laws committee and an Election committee. We are announcing that the next election will take place on January 14, 1990.

TOPIC: To S.N.U.G.'s user group members - would you put to a vote of your membership whether or not your group will make a donation to S.N.U.G.'s growing public domain library. At this time we will weed out all the duplicated programs and eliminate those programs that we identify as non-public domain material.

As soon as a standard method of listing the programs is worked out we will inform all of the Library's contents. Several lists are circulating of the 2068 library. The QL lib is growing SLOWLY.

The membership list is over 83 members and we are working on that data base also. Again, as soon as the method is fully worked out that list will also make it your way.

As a service to the membership a data base has been made available that is an index of all the issues of SYNC, SyncWare News, T.S. Horizons, SUM, Time Designs, Timex Sinclair (USA) and 95% of Timelinez. This data base lists all the hardware and program listings by type (also cross referenced if necessary) and issue of which publication the article is to be found. This can assist in locating any particular subject if it has been printed in those publications. Reprints of some of the articles can be made available. For the currently publishing magazines you can contact the publisher for specific back issue details.

SincLink INDEX Volume 8, Number 4 April 1989

1989 May 31 14:10:44
flp1 sn894_lis
Sf890331.1406;; Words_1431;;
SincLink;; Newsletter;;
Filename_sn894 (Sn893)..

For contact
SincLink..
c/o Bill Miller 408-253-3175
6675 Clifford Drive
Cupertino, CA 95014-4530

DFilename_ext Bytes::..
Sn894_dir ?????..
Sn894_lis 13354?..
Sc8903_lis 48146?..
Sx89t8p0_lis 2876?..
...

Sn894 table of contents (INSIDE)::..
page. description..
2. SLIX contacts and newsletter exchanges, March 1989 (46?)..
6. HATS exchange newsletter..
* "Z88 COMPUTING" by Ian Sinclair; a book review by David Bennett..
* Z88 to QL CONNECTIONS by David Bennett..
..

Sn89_files::..
DFilename_ext Bytes..
D-------_--- -----..
Sn893_dir 88762?..
Sn893_lis 13354..
Sc8902_lis 39888..
Sx89t88_doc 21376..
Sn88_doc 6144..
An891_lis 21254..
..
Sn892_dir 103158?..
Sn892_lis 12077..
Sx89t88_lis Words_1738?..
Sn88_lis 4888..
Ss89202c_lis 4560?..
Ss89202d_bas 1792..
Sc8901_lis 50123..
Ss89202a_lis 5775?..
Ss89202b_bas 5388?..
..
Sn891_dir 89145..
Sn8901_lis 10738..
Sc8812_lis 55422..
Sx88_lis 17788..
Sn88_lis 4888..
..

ARTICLE DEAD-LINE

MAY/JUNE 1989..... JUNE 11

JULY/AUGUST 1989.... JULY 29

****

ZX-PC

BY

JOHN O. EZIKE

****

WELCOME TO THIS MONTHS COLUMN. YOU HAVE PROBABLY RUN INTO A SITUATION WHERE YOU HAVE A PROGRAM THAT AUTO-RUNS AND WOULD LIKE TO MAKE A BACK-UP COPY OF. IF THE PROGRAM IS WRITEN COMPLETELY IN BASIC, ALL YOU NEED TO STOP IT IS TO PRESS 'BREAK' (THE SPACE KEY). HOWEVER, IF THE FIRST SCREEN YOU ENCOUNTER REQUIRES A NUMERIC INPUT, (YOU WILL SEE AN INVERSE 'L' CURSOR IN THE LOWER LEFT HAND CORNER OF THE SCREEN), TYPE IN SHIFT 'A' (STOP) AND PRESS ENTER. ON THE OTHER HAND, YOU MIGHT BE PRESENTED WITH A STRING INPUT CURSOR (AN INVERSE 'L' WITH QUOTE MARKS ON EITHER SIDE), SIMPLY DELETE THE LEFT QUOTE MARK THEN ENTER 'STOP'. IN EVERY CASE A REPORT (ERROR) CODE WILL APPEAR IN THE BOTTOM LEFT HAND CORNER OF THE SCREEN. YOU CAN THEN LIST THE PROGRAM AND SAVE IT AS WILL BE EXPLAINED LATER ON IN THE ARTICLE.

SOME PROGRAMS THAT SELF-RUN ARE WRITTEN IN MACHINE LANGUAGE AND THE ABOVE METHODS WILL NOT WORK. ALL IS NOT LOST AND WITH THE FOLLOWING SEQUENCE OF KEYSTROKES YOU CAN MAKE BACK-UP COPIES JUST AS EASILY. FIRST PUT YOUR COMPUTER INTO FAST MODE (SHIFT 'F' THEN ENTER). YOU WILL GET A 0/0 REPORT CODE. IN DIRECT (IMMEDIATE) MODE, NO LINE NUMBER NEEDED, TYPE IN THE FOLLOWING LINE: RAND USR 836. **DO NOT PRESS ENTER JUST YET**. 'RAND' IS OBTAINED BY PRESSING 'T', 'USR' IS OBTAINED BY PRESSING FUNCTION (SHIFT AND ENTER TOGETHER) 'L'. PREPARE THE TAPE AS YOU WOULD NORMALLY, PRIOR TO LOADING IT. PRESS ENTER THEN PRESS PLAY ON YOUR TAPE RECORDER.

IF THE PROGRAM LOADS SUCCESSFULLY YOU WILL GET A REPORT CODE 0/0. YOU CAN NOW LIST YOUR PROGRAM. IN ORDER TO SAVE A COPY THAT SELF-RUNS YOU HAVE TO LOCATE THE LINE IN THE PROGRAM THAT HAS THE 'SAVE' COMMAND. THIS WILL HAVE THE FORM:

XXXX SAVE "PROGRAM NAME"

THE XXXX IS THE LINE NUMBER AND 'PROGRAM NAME' WILL BE THE ACTUAL NAME OF THE PROGRAM. PREPARE YOUR TAPE RECORDER TO RECORD, THEN ENTER GOTO XXXX. WHEN THE PROGRAM HAS BEEN SAVED SUCCESSFULLY, IT WILL SELF-RUN AND YOU WILL HAVE MADE AN EXACT COPY OF THE ORIGINAL! IF YOU HAVE ANY PROBLEMS, JUST REPEAT THE WHOLE PROCESS PAYING ATTENTION TO YOUR LOAD AND SAVE VOLUMES AND MAKING SURE THAT YOU HAVE PROPERLY POSITIONED THE ORIGINAL TAPE BEFORE LOADING IT. ALSO MAKE SURE YOUR TAPE RECORDER HEAD IS CLEAN.

I HAVE ALSO INCLUDED AN ARTICLE IN ITS ENTIRETY THAT APPEARED IN SYNCWARE NEWS NOV.-DEC. 1984. THE ARTICLE WAS WRITTEN BY ED SHAUGHNESSY AND THE ARTICLE IS SELF-EXPLANATORY. IN MY NEXT ARTICLE I WILL SHOW YOU HOW TO ADD A SWITCH TO YOUR TS 2040 PRINTER! HAPPY COMPUTING.

Ed Shaughnessy
151 Daniel Low 3E
Staten Island, N.Y. 10301

The program presented here creates a modified LOAD command. It moves the routines needed for the LOAD from ROM into RAM and adjusts them to work there. The routines are changed so that when the LOAD completes, machine language code from the 1 REM statement is executed. By changing statement 1, you can completely control what occurs after the LOAD.

Background Information

When a program is SAVEd, the ZX/TS computer begins by writing a lead-in of five seconds of silence. Then it writes the program name ("header"), followed by the four parts of the program: the system variables, the BASIC program, the display file (i.e. the television picture,) and the BASIC program variables. When reloading the program, the LOAD command reads the tape until it finds the header with the program name, and then loads the four parts of the program into the computer.

Two routines are used by the LOAD command. These are the load routine (locations 0340-03A1h of ROM) and the terminate routine (01FC-0206.) Every time the load routine reads a character from tape and writes it into the computer, it calls the terminate routine which checks to see if the end of the program has been reached. When it finally gets to the end, the terminate routine does not return control to the load routine; instead, the code immediately after the routine is executed. Normally this is the display routine.

The program shown here moves the terminate routine and the load routine, as well as everything between them, to the top 1K of RAM. The address of the assembler statements (the CALLs and JPs) are adjusted to work in the new location. Then, before calling the LOAD command in RAM, the program moves the machine-code in the 1 REM statement into the area of RAM immediately after the terminate routine. This code will execute after the LOAD finishes. Two possible versions of this modified LOAD command will demonstrate what can be accomplished by carefully selecting the code tht is stored in the 1 REM statement.

SAVE the UnSAVEable

Suppose you purchase a self-running program and you wish to make a back-up copy. This is difficult or impossible to do the usual way because as soon as you load the program, it executes. Verson 1 of the modified LOAD command solves this problem. We have seen that when the LOAD command in RAM completes, the code from 1 REM executes. In version 1 of the modified LOAD, this code calls the keyboard scanning routine until the "S" key is pressed. Then the address of the name of the program to be saved is set to a location in ROM that happens to contain an inverse "X." Finally, a jump is made directly to the SAVE routine in ROM.

Type in the program of version 1. Type RUN, then ENTER. The screen will become white while the code is being moved from ROM to RAM. When the modified LOAD command begins to execute, the loading pattern will appear on the screen. Start playing the tape that you wish to back up. The loading pattern will continue until the load completes, and then the screen will turn gray. Place a blank tape in the recorder, switch the cassette lead to the MIC sockets, and press RECORD. Now press the "S" key to begin the SAVE. After five seconds, the saving pattern will begin. At the end of the save, the screen will go white with the report C/190.

You now have a backup copy just like the original. To LOAD the copy you have just made, use the command LOAD "X". The program will run as soon as it is loaded.

```
  1 REM E1CDB802EB21FDFBA7ED522
0F421DB04C3FC02000000000000
 10 REM SAVE A SELF-RUN PROGRAM
 20 FAST
 30 LET A=124
 40 FOR I=508 TO 929
 50 POKE I+A*256,PEEK I
 60 NEXT I
 70 LET B=A*256+834
 80 POKE B,55
 90 POKE B+7,A+3
100 POKE B+32,6
110 POKE B+33,A+2
120 POKE B+38,A+3
130 POKE B+60,A+3
140 POKE B+64,A+1
150 FOR J=1 TO 25
160 LET C=16512+J*2
170 POKE J+A*256+517,(PEEK C-28
)*16+PEEK (C+1)-28
180 NEXT J
190 RAND USR B
```

LOAD the UnLOADable

Suppose last night you keyed in a long program and saved it on tape. Now you try to load it. The loading pattern appears for half a minute or more and suddenly the screen goes white for a few seconds and an inverse K appears at the bottom. When you try to LIST the program, you receive a report 0/0, indication that nothing was loaded. I'm sure all SyncWare News readers have encountered this frustration. There is a bad spot on the tape, resulting in a drop-out. When the LOAD command reaches a silent spot on the tape, it jumps to the NEW command which deletes whatever has already been loaded. Since you have a program listing on paper, you would like to recover the program up to the bad spot on the tape, so at least you won't have to re-enter the entire program. Version 2 of the modified LOAD routine will load a tape up to the drop-out.

When the modified LOAD command reads a silent spot on a tape, it jumps to the area after the terminate routine which holds the code from our 1 REM statement. In version 2, this code determines how far the load has gotten. If the bad spot occurred after the system variables and the BASIC program were loaded, whatever was loaded from the display file or program variables area will be disregarded.

If the drop-out occurred while the BASIC program was being loaded, then the end of the last complete BASIC line is found so you won't get a program that is unlistable because part of the last statement is missing. Finally, a jump is made to a routine in ROM that will create an empty display file and an empty program variables area.

Type in version 2 of the program from the listing. After saving it for future use, enter RUN; the screen will turn white while the routines are moved into RAM. When the loading pattern appears, start the tape recorder in PLAY with the bad tape. The loading pattern will continue until the bad spot on the tape is reached. Then the screen will go blank for a few seconds and then display report 0/0. You can now LIST. If the program is not complete, type in the missing statements.

```
  1 REM E82A0C4037ED522A0C40380
AEB0100003E76ED892323C30304
 10 REM LOAD PART OF A BAD TAPE
 20 FAST
 30 LET A=124
 40 FOR I=508 TO 929
 50 POKE I+A*256,PEEK I
 60 NEXT I
 70 LET B=A*256+834
 80 POKE B,55
 90 POKE B+7,A+3
100 POKE B+32,6
110 POKE B+33,A+2
120 POKE B+38,A+3
130 POKE B+60,A+3
140 POKE B+64,A+1
150 FOR J=1 TO 25
160 LET C=16512+J*2
170 POKE J+A*256+517,(PEEK C-28
)*16+PEEK (C+1)-28
180 NEXT J
190 RAND USR B
```

Final Words

The value in A in statement 30 determines where in RAM the routines are moved to. Readers with RAM in the 8-16K block can change the value of A so that the LOAD command is moved to an area safely outside the usual 16K RAM area. Then even the largest programs being loaded in will not overlay the routines in RAM and cause a crash.

Readers with disassemblers that reside in the top part of RAM (e.g. Bug-Byte's ZXDB) may also set A to a different value to avoid a conflict. Make the following changes:

30 LET A=96
Delete line 190

Run the program to move the routines to a location in RAM that won't conflict with the disassembler. Use the disassembler to view the assembly code in locations 61FC-621E and 6242-62A2.

For a detailed explanation of the LOAD command, see "The Explorer's Guide to the ZX81 and Timex Sinclair 1000" by Mike Lord. Another book that is valuable for anyone wanting to understand ROM routines is "The Complete Timex TS1000/ Sinclair ZX81 ROM Disassembly" by Ian Logan and Frank O'Hara. I hope that by using the program shown here, readers will discover other useful changes to the LOAD command.

From the Sep. 88 N/L of the Sinclair Louisville Users Group.

T/S 2068 COLOR MONITOR DIFFICULTIES
KSXY

Some hams have difficulty using some color monitors with the T/S 2068. There are very good reasons for these difficulties. If the usual standards are not followed, less than perfect quality results. The trouble is deciding what are the usual standards when you are trying to build a computer which can be used any place in the world.

Timex had to work hard to adapt the TV output of the Spectrum to the US broadcast standards for use on our TV sets. The adaptation was not perfect.

The following table shows the angles at which the color vectors are produced by the T/S 2068 and the angles which are desired by the usual US TV set.

COMPOSITE VIDEO VECTOR ANGLES

PHASE	T/S 2068 degrees	NTSC STANDARD degrees
Blue	358	358
Magenta	64	62
Red	116	112
Green	242	248
Cyan	284	284
Yellow	178	178
Reference	224	188

There are also three other difficulties which cause some monitors to give less than perfect performance.

1. Color bust sychronization. The color burst is not synchronous with the waveform because it is generated from the 3.579545 MHz crystal and the waveform is derived from the 14.112 MHZ crystal. The result is observed as ripples at color boundaries such as green to magenta.

2. Color burst duration. The color burst duration on the T/S 2068 is 8 cycles while standard TV broadcast stations provide 9 cycles. This short burst is a problem for some monitors.

3. Color burst timing. The color burst starts 6.4 microseconds from the leading edge of the sync pulse. Many monitors are designed to expect this start as early as 5.3 microseconds, thus these monitors may not produce color when attached to the T/S 2068.

I hope this information is helpful to those who are having monitor problems with the T/S 2068.

From the Jan. 89 QZX N/L.

TS1000 TAPE UNLOCKER
Tim L. Ward

Here is a short program which will permit you to make backup tapes of non-standard beginnings or ends.

First, type in this very short POKE routine:

```
10 REM 012345678
20 FOR X=16514 TO 16522
30 INPUT A
40 POKE X,A
```

Then RUN this short program entering the following nine numbers when the program pauses for them in line 30. 62,0,50,0,64,1,55,0,201. After the numbers have been entered line 10 should look as shown below:

```
10 REM Y M RND  R TAN
```

Now add the rest of the program

```
20 REM TAPE LOCKER PUBLIC DOMAIN
      LIBRARY OT TIM WARD
30 SCROLL
40 PRINT "INPUT PROGRAM NAME"
50 INPUT N$
60 POKE 16520, CODE N$(LEN N$)
70 LOAD N$( TO LEN N$-1)+CHR$
      USR 16514
80 REM NO MORE WORRY ABOUT TAPES
 THAT  WON'T LET YOU MAKE COPIES   OR
LISTINGS
90 STOP
100 SAVE "UNLOCK"
110 LIST
```

Larken Program Tips by Rod Gowen from the April 89 Plotter N/L of Clackamas County, OR.

Here are a couple of program tips that I thought you might be able to use and that might save some of you some time. I spoke to Larry Kenny and during our conversation I mentioned that I wondered why it took so long to copy a disk with his COPY A DISK in the FORMAT program when it could be done a bit faster with Byte-Power's utility. He told me to look at the basic lines in his COPY program and to change all of the PAUSE values that appear between lines 510 through 740. I went through and changed them all to a value of 1. WHAT A DIFFERENCE! It may not be as fast as machine code, but it does do it in half the time.

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BEACH FEDERAL SAVINGS AND LOAD
7777 NORTH SEMINOLE BLVD.
SEMINOLE, FL

DATES: APRIL 8, 1989
MAY 13, 1989
JUNE 10, 1989

LAST WORD

As many of you have guessed, TIMELINEZ once again has had a few changes. First of all, American Micro has changed it's last name from "Connection" to "Systems". This came about when a club member notified us concerning a former A.M.C. that claimed bankruptcy and left many angry customers behind. We do not wish to be associated with this defuncted company in any way. So, our official title has been changed to American Micro Systems.

Second, TIMELINEZ has changed it's copywrite format to non-commercial use only. Articles may be freely copied provided author and source is given proper credit. We are also working on a separate account under the newsletters name. This will allow easier access to finances, from members and club officials, separate from A.M.S. All subscribers will be notified when this takes place. In the mean time, A.M.S. will collect the funds.

Third, SincLink subscribers will receive their issue within this publication as a SLIX index only. If your needs require to have the entire monthly file, please contact Bill Miller for further information. We are experimenting with this format as a result of last months "View from Ram-Top" article.

Fourth, after reworking our Archive files, we have been able to reinstate the month/year mark for subscription renewals. We received many calls that this combo was extreemely helpful in reminding members when to renew, it's amazing what a simple lable can do?

Fifth, and last, we created a Z88 logo for the front page to indicate our support for the Z88 laptop. Now if we only had some articles to print about Uncle Clive's 2 pound microchip wonder we'd all be in business.

Last month, we were marveled by Bob Orrfelt's programming of the CHAOS algorithm within our TIMEXsinclair computers. Here it is for the QL. The program works but it is not right. Your job, find out the problem and correct it.

QL CHAOS

```
 10 WINDOW #1,512,256,0,0
 20 CLS
 30 FOR r=2.978 TO 4 STEP 2E-3
 40 x=.3
 50 FOR i=1 TO 200
 60 x=r*x*(1-x)
 70 NEXT i
 80 FOR i=1 TO 300
 90 x=r*x*(1-x)
100 POINT(122*r-363),(50*x+25)
110 NEXT i
120 NEXT r
130 PAUSE
```

FOR THE FULL FIGURE USE:

```
 30 FOR r=0 TO 4 STEP 8E-3
100 POINT(31.25*r),(75*x+25)
```

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